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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,102	01/11/2005	Robert A. Grigsby JR.	81,603	7053
7590		01/28/2008	EXAMINER	
HUNTSMAN CORPORATION			MARCHESCHI, MICHAEL A	
Legal Department			ART UNIT	PAPER NUMBER
10003 Woodloch Forest Drive			1793	
The Woodlands, TX 77380				
		MAIL DATE	DELIVERY MODE	
		01/28/2008	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/521,102	GRIGSBY ET AL.
	Examiner	Art Unit
	Michael A. Marcheschi	1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 13 November 2007.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-17 and 21-23 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-17 and 21-23 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 1/16/08.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 21-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The subject matter of claims 21-23 is considered new matter because the examiner cannot find clear support, in the original specification, for the subject matter sought and applicants provide no guidance as to where any support can be found.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as obvious over Soukup et al. (4,710,521) in view of Savoca et al. (5,238,894).

Soukup et al. teaches in the abstract, column 5, lines 20-29, column 6, line 36, column 8, lines 48+ and claim 5, a catalyst for making polyisocyanurate (from isocyanate and polyol) comprising a tertiary amine, a blowing agent and a trimer catalyst (alkali salt of carboxylic acid). This reference is silent with respect to the claimed specific amine component.

Savoca et al. teaches in column 5, lines 1-68 that a tertiary amine, similar to the claimed amine of the present invention, is a conventional tertiary amine in catalysts used to make polyisocyanurate foams. The reference also teaches that the catalyst component (tertiary amine, similar to the claimed amine of the present invention) can be combined with other tertiary amines (i.e. triethylenediamine) and organotin compounds.

As defined above, Soukup et al. is silent with respect to the claimed specific amine component. However, a *prima facie* case of obviousness may be made when chemical compounds have very close structural similarities and similar utilities. "An obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties." *In re Payne*, 606 F.2d 303, 313, 203 USPQ 245, 254 (CCPA 1979). See *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963) (discussed in more detail below) and *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1991) (discussed below and in MPEP 2144) for an extensive review of the case law pertaining to obviousness based on close structural similarity of chemical compounds. See also MPEP 2144.08, paragraph II.A.4.(c).

The prior art appears to disclose the invention as claimed on the basis of inherent property characteristics which render the claimed product obvious and the methods of contacting similar materials are also disclosed, therefore it would have been obvious to one of ordinary skill in the art to substitute a newly synthesized amine compound for one of the known compounds currently on the market in order to see if an improvement may be found over those of the prior art product.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as obvious over Soukup et al. (4,710,521) in view of applicants own admission of page 1, lines 14-16 of the specification.

Applicants admit that that the claimed amine is known in the manufacture of polyurethane based (i.e. polyisocyanurate) foam products.

As defined above, Soukup et al. is silent with respect to the claimed specific amine component. However, it is *prima facie* obvious to substitute one known amine for another that is to be used for the same purpose (making polyisocyanurate foam products).

New claims 21-23 are rejected under 35 U.S.C. 103(a) as obvious over either (1) Soukup et al. (4,710,521) in view of Savoca et al. (5,238,894) or (2) Soukup et al. (4,710,521) in view of applicants own admission of page 1, lines 14-16 of the specification.

With respect to claims 21 and 23, the temperature at which a chemical reaction is performed is considered to be a result effective variable because, it is well known in the art that reaction temperature controls reaction kinetics, and one of ordinary skill in the art would be expected to be able to adjust the temperature to arrive at an optimal temperature or range. In addition, Soukup teaches in column 6, line 16 that the formation of polyisocyanurate occurs at a temperature within the claimed range.

With respect to claim 22, the length of time under which a chemical reaction is performed is considered to be a result effective variable because, it is well known in the art that depending upon the exact reaction conditions, the time to completion of reaction will vary, and one of ordinary skill in the art would be expected to be able to determine the time it takes for a reaction to go to completion.

Furthermore, with respect to result effective variables MPEP 2144.05 [R-5] states:

A. Optimization Within Prior Art Conditions or Through Routine Experimentation

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be *prima facie* obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%); see also *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382 (“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.”); *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969) (Claimed elastomeric polyurethanes which fell within the broad scope of the references were held to be unpatentable thereover because, among other reasons, there was no evidence of the criticality of the claimed ranges of molecular weight or molar proportions.). For more recent cases applying this principle, see *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997).

Applicant's arguments filed 11/13/07 have been fully considered but they are not persuasive.

Applicants appear to argue that the examiner has failed to establish a *prima facie* case of obviousness. This is not persuasive because applicants merely attack the motivation without providing reasons why this combination is improper. The motivation relied upon by the examiner is clear in that "An obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties." *In re Payne*, 606

F.2d 303, 313, 203 USPQ 245, 254 (CCPA 1979). See *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963) (discussed in more detail below) and *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1991) (discussed below and in MPEP 2144) for an extensive review of the case law pertaining to obviousness based on close structural similarity of chemical compounds. See also MPEP 2144.08, paragraph II.A.4.(c). Applicants have not clearly argued this.

Applicants also argue and refer to figure 1 to show that only catalyst Z-110 provides trimerization of isocyanates. This is not persuasive because figure 1 in no way shows that only Z-110 promotes trimerization. In addition, it appears that the figure requires specific concentrations of the amine components, however, the claims do not define the amounts, thus the table is not commensurate in scope with what is claimed. Finally, the figure does not show any criticality for the combination of components a) and b) recited in claim 1 and the other claimed combinations. The figure, at most, refers to single components used and not a combination of the components, which the references clearly depict and make obvious for the reasons defined above.

Applicants individually argue the references of Soukup and Savoca, but these arguments are considered piece-meal analysis of the references, which is improper. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). At most applicants argue that the amine component of Soukup is not believed to promote trimerization. This is not persuasive because applicants provide no clear and convincing evidence to support this position. In addition, the examiner is not relying

on the amine of this reference, as is clear from the above rejection. At most applicants argue that the amine component (PMDETA) of Savoca does not promote trimerization, however, applicants are referring to example 5 of this reference and it is well established that a reference is not limited to the examples alone. Criticality can only be established with evidence commensurate in scope with the claimed invention.

Finally, applicants have not persuasively argued the previous rejection of claims 1-17 as being obvious over Soukup et al. (4,710,521) in view of applicants own admission of page 1, lines 14-16 of the specification.

In the IDS filed 1/16/08, the foreign patent document and the non patent literature has not been considered because the IDS fails to comply with 37 CFR 1.98(a)(3) since it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent and literature listed that is not in the English language. The US patent document, however, has been considered.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MM
1/08

Michael A Marcheschi
Primary Examiner
Art Unit 1793